

# IMPACT OF MOTORISED TRAFFIC OF THE NEIGHBORHOOD ON THE INDIVIDUAL WALKING BEHAVIOUR: A MULTILEVEL ANALYSIS

**Marta Olabarria**, *Agència de Salut Pública de Barcelona, Spain Email: molabarr@aspb.cat*

**Katherine Pérez**, *Agència de Salut Pública de Barcelona, Spain*

**Elena Santamariña-Rubio**, *Agència de Salut Pública de Barcelona, Spain*

**Francesca Racioppi**, *WHO European Region*

**Background and aims:** Motorised traffic may discourage people walking. The main objective is to examine whether motorised transport volume influences the level of walking for transportation measured at individual level, and whether this association persist after controlling for the individual characteristics of the person who travel, and for the environmental and road safety characteristics of the neighbourhoods in Barcelona (area level).

**Methods:** A cross-sectional multilevel study will be developed. Individual socio-demographic and mobility information was obtained from the 2006 Daily Mobility Survey. 32.343 individuals older than 3 years reported travelling in a workday in Barcelona. Data were aggregated to calculate the total number of motorised trips made in each neighbourhood. Data about the environmental characteristics of the neighbourhoods, in terms of connectivity, aesthetics, land use mix and density, were obtained from the Barcelona Council's Register. Data of road traffic injuries were obtained from the Crash Register of the local police of Barcelona where each collision is geocoded. Road safety indicators include rate of people injured in each neighbourhood in 2004-2008 per 10.000 person who travelled and per 10.000 trips made. Multilevel models will be used to estimate associations between individual levels of walking and motorised traffic volume of the neighbourhood, controlling for individual and neighbourhood variables (environmental, road safety and traffic volume related).

**Results:** Ecological analysis, using neighbourhood as the unit of analyses, are presented as preliminary results. In each neighbourhood 27.0%[95%CI 23.9-30.0] of the trips made are motorised, ranging from 17.3% in the less motorised to 51.6% in the most one. The total number of motorised trips of the neighbourhood predicted 63% of the variance of the percentage of people who walked in each neighbourhood,  $p < 0.001$ .

**Conclusion:** Motorised traffic volume varies across the neighbourhoods and may influence walking behaviour. Results of the multilevel analyses will be presented.